

Amendment to the Claims

Listing of Claims:

Claims 1-16 (cancelled)

Claim 17. (new) A Java run-time system comprising:

a stack-based interpreter for executing a Java program comprising Java bytecode instructions and Java class structures;

a converter for mapping standard Java symbolic linking strings contained in a downloaded Java program onto linking identifiers, wherein the converter is adapted to use a hash function to map the standard Java symbolic linking strings onto linking identifiers; and

an export table for storing linking identifiers generated by the converter to bind a reference in a bytecode instruction to be executed to a corresponding link target.

Claim 18. (new) The Java run-time system of claim 17, wherein the converter is adapted to use a parameterized hash function to map the standard Java symbolic linking strings onto linking identifiers, a parameter for the hash function being contained in the Java program to be downloaded.

Claim 19. (new) The Java run-time system of claim 17, wherein the parameter is used so that different symbolic linking strings are not mapped to the same linking string.

Claim 20. (new) The Java run-time system of claim 17, wherein each linking string is a short token.

Claim 21. (new) The system of claim 20 wherein the short token is a number.

Claim 22. (new) The system of claim 20 wherein the short token is a short integer.

Claim 23. (new) The Java run-time system of claim 17, wherein the run-time system is ported on an embedded microcontroller of a smart card.

Claim 24 (new). A method for downloading and linking a Java program on a Java run-time system comprising a stack-based interpreter for executing bytecode instructions, the Java program comprising Java bytecode instructions and Java class structures and including Java standard symbolic linking strings to bind a reference in a bytecode instruction to be executed to a corresponding link target, the method comprising steps of:

using a hash function to map the Java standard symbolic linking strings to linking identifiers; and

storing said linking identifiers in an export table.

Claim 25 (new). A method according to claim 24, wherein a parameterized hash function is used to map standard Java symbolic linking strings onto linking identifiers, wherein each parameter is included in the Java program to be downloaded.

Claim 26 (new). A method according to claim 25, wherein the parameter for the Java program to be downloaded is used to ensure that the hash function does not map two symbolic linking

strings of Java program to the same linking identifier.

Claim 27 (new). The method of claim 25 wherein the parameter is calculated by a cap file generator.

Claim 28 (new). The method of claim 25 wherein the parameter is calculated by checking the symbolic linking strings and varying a start parameter until a parameter is formed that satisfies a requirement that the hash function maps all symbolic linking strings on different linking identifiers.

Claim 29 (new). A computer-readable medium, tangibly embodying a program executable by the computer to perform method steps of a method for downloading and linking a Java program on a Java run-time system comprising a stack-based interpreter for executing bytecode instructions, the Java program comprising Java bytecode instructions and Java class structures and including Java standard symbolic linking strings to bind a reference in a bytecode instruction to be executed to a corresponding link target, the method comprising steps of:

using a hash function for mapping the Java standard symbolic linking strings to linking identifiers; and

storing the linking identifiers in an export table.

Claim 30 (new). The medium of claim 29, wherein the export table comprises a Java Card export file.

Claim 31 (new). The medium of claim 29, wherein a parameterized hash function is used to map standard Java symbolic linking strings onto linking identifiers, wherein the parameter is included in the Java program to be downloaded.

Claim 32 (new). The medium of claim 29, wherein the parameter for the Java program to be downloaded is used to ensure that the hash function does not map two symbolic linking strings of Java program to the same linking identifier.